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DIVISION OF OIL, GAS AND MINING

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December 2, 1997

TO: Minerals File

FROM: Anthony Gallegos, Reclamation Engineer aag

RE: Meeting and Site Inspection, SF Phosphates, Vernal Phosphate Mine, M/047/007, Uintah County, Utah

Date of Inspection: November 20, 1997
Time of Inspection: 1105 - 1450
Conditions: Intermittent snow, cold
Participants: Representatives from: BLM, DEQ, Dam Safety, SF Phosphates, and JBR Consultants; Tony Gallegos, DOGM

Purpose of Inspection: To attend the scoping meeting and examine the proposed site of the new tailings storage facility

SF Phosphates hired JBR consultants to perform a preliminary feasibility study of a new tailings storage facility (TSF). The scoping meeting began with an overview of the project presented by representatives of JBR. The current tailings impoundment will provide storage capacity for another seven years with several required lifts of the impounding structure. The preferred site of the new TSF is Site B (DOGM Exploration Notice E/047/042). JBR has performed some preliminary studies addressing the water retention capability of the proposed area, the suitability and availability of materials for construction of the embankment, and the engineering stability of such an embankment. SF has posted mill site claims to cover site B.

Geotechnical sampling of test pits and drilling operations were performed in June 1997. At this time there are a number of general findings. The base of the impoundment consists of mancos shale with a naturally low permeability. Groundwater present in the area is of limited quantity and low quality due mainly to high TDS. Borrow material for construction of the earthen embankment is available in nearby ridges within the proposed impounded area. The conceptual embankment would be constructed in phases and have a final configuration of approximately 220 feet high and 3,000 feet long. The embankment would be constructed using a downstream construction method. The embankment would create two limbs of impounded tailings, an east limb and a west limb. The west limb would be the first area of tailings deposition under the current scenario. Tailings would be deposited at a single point at the north end of the impounded area. A tailings pipeline would have to be constructed from the mill to this new site. Power lines and a county road would have to be relocated if this site was utilized.

In comparison, the existing tailings facility has tailings deposited near the embankment to create a beach of coarse sands to protect the embankment and allow drainage. The existing tailings impoundment is monitored/sampled yearly.

Regarding impacts to threatened and endangered species, an official Threatened and Endangered (T&E) survey has not been performed, but the preliminary scoping indicates there are no significant T&E species within the project area. A cultural survey has been performed according to protocol, but other baseline studies remain to be performed.

After the project overview, lunch was provided by SF. After the lunch break we traveled to the existing tailings impoundment. From the top of the existing tailings embankment we viewed the drainage collection ponds. These ponds collect water drained from the tailings which seeps through the embankment. The collected water is pumped back into the impoundment or mill. Visibility was limited as a snow squall came through the area. We next visited the location of the tailings discharge into the existing impoundment. We next drove by the decant pond where water from the impoundment is pumped back to the mill.

We next visited Site B, the proposed location of the TSF. The TSF would require the construction of two embankment structures which would create two "limbs" of impounded tailings. We stopped at the approximate location of the embankment for the west limb of the impoundment. The impounding area is bordered by ridges and outcrops. This west limb would be the first area to receive tailings under the current scenario. After this west limb reached a certain storage capacity the embankment for the east limb would need to be constructed. We walked up the knoll between the west and east limbs of the proposed TSF. Photographs were taken from this knoll to document the current condition of the area. Looking east, the second knoll in the photograph is where the other side of the east embankment would tie in to the existing topography.

SF arranged this scoping meeting in the hope of receiving feedback regarding the proposed TSF site. JBR will finish their preliminary investigation of the proposed site and submit their findings to SF. SF would like to know if any of the regulatory agencies see any serious drawbacks or permitting concerns with this proposed site prior to investing more time and resources into the permitting process.

jb
cc: Ron Ryan, SF Phosphates
Pete Sokolosky, BLM Vernal Field Office
File E/047/042

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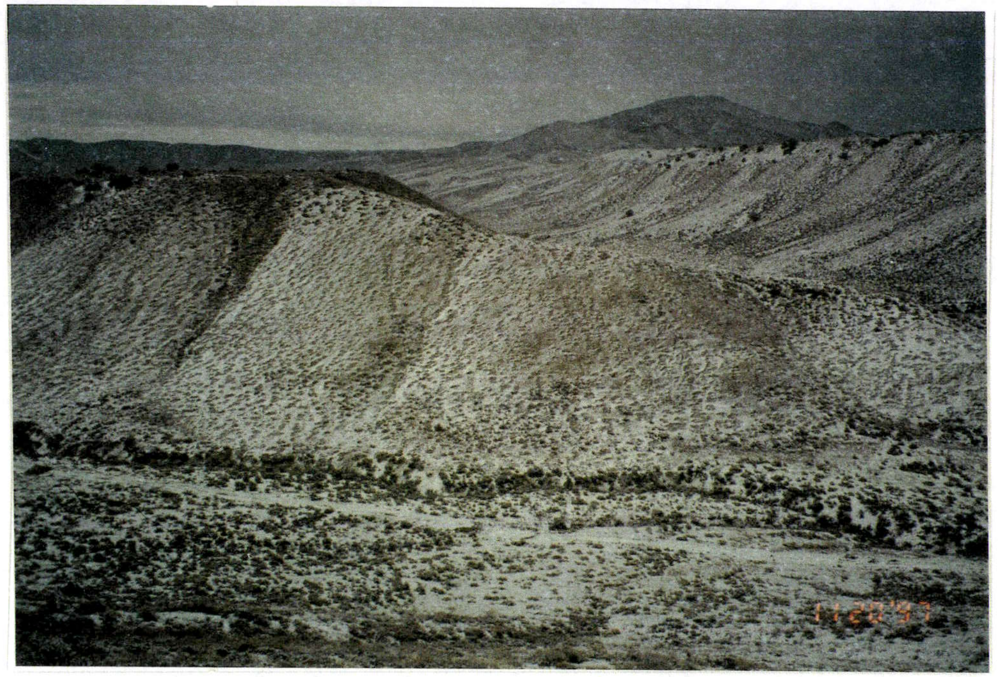

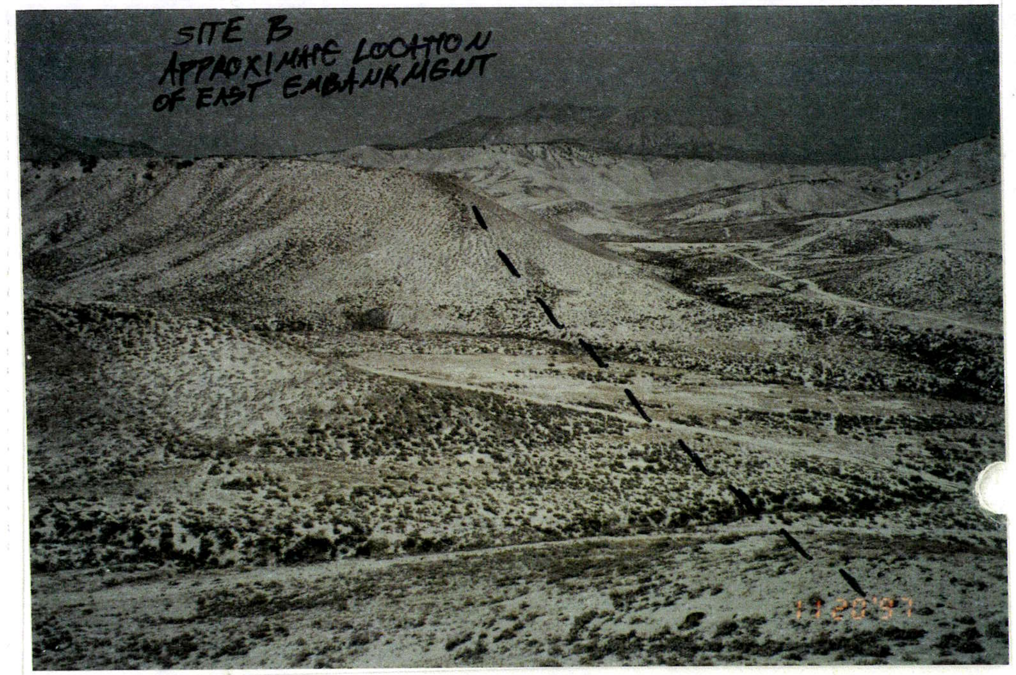

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